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A SEVEN-YEAR ELEMENTARY SCHOOL

OFFICERS OF THE SCHOOL OF EDUCATION
University of Chicago

The Elementary School of the University of Chicago has been working for some years on the problem of saving the time of the pupils so that they may enter the High School at an earlier period than has been the custom in the regular eight-year course which has up to this time been administered in this school. It is evident to all students of education that in one way or another time is wasted, or at least not as well spent as it might be. Teachers realizing that they have more time than is required to cover a given amount of work relax somewhat in their instruction and the class is less well instructed than it might be. Lack of activity on the part of the pupils is then interpreted as due to the difficulty of the course and further reduction of the requirements follows until the rate of intellectual movement in the upper grades is distinctly slow. This manifests itself in many schools in an error which everyone tries to avoid but is likely to fall into either in the elementary school or in the first year of high school, namely the error of excessive reviewing. In the case of the University schools there was undoubtedly repetition in several of the high-school courses of matter and methods which had been adequately taken up in the elementary schools. In some other schools excessive reviewing appears in the seventh grade. This reviewing is repeated in the early part of the eighth grade, and the latter half of the eighth grade is very commonly given over to a general review of the work that has been done in the elementary school, in preparation for the high school. All this reviewing, even where it has been consciously carried out, seems to be regarded as ineffective, for as soon as the student enters the high school, he finds himself dealing, as indicated above, in many of the subjects, with materials and methods which he has canvassed before in the elementary school. The natural result of such repetition is that the student manifests no interest in the work that is offered to him in the first year of the high school because he has already become acquainted with it in the upper grades of the grammar school.

If it is urged that this reviewing is necessary on the principle that the elementary work must be done with great care so as to avoid any possibility of failure in the high school, there is double reason for the contention that the high school must recognize exactly what has been accomplished in the elementary grades, and the teachers in the high school ought to be called upon to take advantage immediately of all of the preparation which the children have for advanced work. The fact is, however, that high schools and elementary schools very often have little or no articulation. For example, a committee of the National Council of English Teachers declared the problem of relating elementary English to high-school English to be a new and unsolved problem. It is evident to the student of education that in most schools students bear the burden of maladjustment in these matters. The elementary school is overanxious and overburdened with strict supervision, while the high school is neglectful of its duties. The student is made to repeat unnecessarily and is left in a bewildered state of mind because the teachers have not worked out an adjustment.

It was the belief that the school could work out the relation more efficiently that prompted the University schools to attack the problem of economy. Teachers in the High School were called into conference with the teachers in the later years of the Elementary School, and the matter of each of the different subjects was canvassed in detail in order to find out exactly what was being done in the seventh grade and in the eighth grade and in the first year of the High School, and how far all the different lines of work were interrelated.

It should be noted perhaps at the outset that the program of the Elementary School is somewhat fuller than the ordinary program in public schools of elementary grade. For example, all of the children of the University Elementary School take one foreign language beginning with the fourth or fifth grade. The result is that each pupil arrives at the eighth grade with some speaking knowledge of either French or German, according as he may have elected to take the one language or the other during his elementary course. Furthermore, it may be pointed out that the Elementary School gives a good deal of attention to nature-study. Work in the garden alternates with studies in physics, hygiene, general zoölogy, and botany. This type of work is cultivated to a degree unusual in elementary schools. In like fashion, a good deal of emphasis is laid on the cultivation of skill through manual arts and the development of knowledge of the industries. Sewing, weaving, and constructive work are taught in the lower grades; the girls are given more complete courses in sewing in the upper grades, while the boys take shopwork; both boys and girls take printing in the upper grades. In short, the effort to economize time is not to be confused with any effort to reduce the elementary course to its lowest possible terms in point of content. The undertaking is to be described rather by saying that the school is organized to include all that can legitimately be included in an elementary education. Its full content is then to be administered in such a way as to save as much time as can be saved by the best possible organization. It should be explicitly noted, therefore, that the reduction of time involves no curtailment of the various extra lines of work. The work in foreign language, in science, and in handwork is recognized as altogether as important as other lines of work in the school; and it was understood from the outset that if the reduction of time was to be legitimately made, it must be made in such a way as not to jeopardize the interests of these special subjects. The whole attention of the school was concentrated upon the problem of a more effective correlation of the two schools without depriving the students of anything.

The type of economy which it was the aim of the school to secure can best be illustrated by referring to the various subjects of instruction. Thus, the High-School teachers did not find it easily possible to take advantage of the training which had been given in the Elementary School in modern languages. The German teachers and the French teachers of the High School held that the kind of work which had been done in the Elementary School did not correspond exactly to the work that had been done in the High

School in the first-year course. They found therefore that students who came from the Elementary School could not be admitted to the second year of the High-School classes without interfering in some degree with the ordinary organization of the courses. The organization was therefore inhospitable to the child. The pupil had done such work as was required of him, but little or no recognition could be given to the elementary work by the High-School departments because their organization did not connect directly with the elementary work. A second example of failure to articulate appears in the science work. For a long time the students from the Elementary School were put into the same kind of science work as children who came to the High School from elementary schools where less attention had been given to science. Again, elementary manual training was given in the High School and was required of all, including those who had done similar work in the University Elementary School.

It would have been altogether disastrous to the organization of the two schools to have made any sudden move. In the first place, the teachers who would have been involved in any such sudden arrangement would not have had time to adjust their work, and the children would have experienced the ill effects of an experiment for which the teaching corps had relatively little sympathy. The first step therefore was to bring together the various members of different departments, and to establish relations which would make it easily possible for the High-School teachers and the Elementary-School teachers to look at the problem from the same point of view. For example, the modern-language teachers were called upon to examine each other's work and to suggest any modifications that were necessary in order to allow the children to pass directly from the elementary work into the advanced stages of the work in the High School. Indeed, certain forms of organization were undertaken to make this transition easy. It was said, for example, that children who come from the Elementary School are somewhat less mature than the children who have passed through the first year of high school. For two years, therefore, the children who came from the Elementary School, and had taken a good deal of German, have been allowed to do a small amount of German during the first year of the High School until they should obtain the maturity supposed to be necessary in order to make it possible for them to stand on an exact equality with the students in the second year of the High School. This compromise organization is on the whole not very satisfactory, but it furnishes a method of passing without shock from the general inco-ordination with which the organization started to the final arrangement in which it hoped the adjustment will be complete. In the meantime the teacher of the Elementary School has been called upon to give some of the work in the first year of the High School, and modifications have gradually been made in the work of both the Elementary School and the first year of the High School until there seems to be reasonable promise of a complete co-ordination.

The English departments of the two schools were asked to meet together and to canvass in detail all of the work given in the eighth grade and the work given in the first year of the High School. This careful study of the problem very soon brought out the result that both schools were dealing with the same type of material, and in much the same fashion. Only very slight modifications were necessary in order to justify the promotion of the children who had done the work of the eighth grade in the Elementary School directly into the second year of the High School. This promotion into the second year of the High School avoided all of the repetitions that had formerly been committed in the first year of the High School.

So far as science was concerned, it was very simple to allow the children from the Elementary School to omit the first-year science course. In the University High School this first-year science course is a general course dealing with phenomena that are at once physical and biological. The problem of giving credit for this science course is perhaps not as simple as the problem of giving credit in the other departments, but the permission, indeed the requirement, to omit the first year of science in the High School has been put into full operation.

The discussion of manual training led to a modification of the course as administered in the High School, so that now elementary handwork is not required of first-year children who have had such work in the Elementary School. This readjustment is generally advantageous, because not only the University Elementary School, but many other schools also, are introducing enough handwork to justify a somewhat more advanced type of work when the pupils enter the first year of the High School.

The problem of mathematics was somewhat more complicated. The traditional division between arithmetic and algebra, which marks the boundary line between the elementary and the high school, is not so easy to transcend. There can be very little doubt to the mind of the careful observer that this traditional division is not justified by the needs of pupils. A great deal of the work that is done in arithmetic in the Elementary School in the later years is valuable merely because it presents complicated opportunities for developing reasoning processes in the children. As a training in mathematics these problems are of very doubtful value. They involve only the relatively simpler mathematical processes, and these mathematical processes are imbedded in a situation which must be visualized and disentangled before the student can properly apply what he knows about arithmetical operations. It would be very much more educative, in many cases, to solve these complicated problems that are given in arithmetic by algebraical formulas. For example, if a symbol of the unknown quantity could be employed in the calculations, the method of solving the problem would be better from the point of view of the child's development. If the principles of solving the equation were understood, the solution of many an arithmetical problem would be rendered very easy. Yet there is a strong tradition against the introduction of the unknown quantity and the simpler methods of solving equations into the elementary-school course. From time to time algebra has been taught in the upper grades of some elementary school only to be timidly dropped because of the anxiety of someone about the traditions of elementary education. In spite of reason the high school has accordingly kept its hold on algebra and its methods. In the same way, geometry has traditionally been the property of the high school. Little by little the elementary school has been introducing certain constructive problems which deal with the simpler properties of space, but even here it has not been regarded as heretical to call such work by the name of geometry because geometry has always been given as a high-school course.

The experiment in the University Elementary School proceeded therefore very cautiously in this matter of mathematics. The mathematical work usually required of the eighth grade was completed in due form. Last year, with an eighth grade that had advanced well in matters mathematical, a certain amount of high-school work was tentatively undertaken, and it was found that the eighth grade could take, in addition to its regular arithmetic, approximately half a year of high-school work in algebra and geometry. It should be said that the mathematical course given in the University High School consists of certain algebraical and geometrical problems which are worked out together. Exactly the same course was followed with the eighth grade. In order to corroborate the judgment of the instructors that the eighth grade had done the work satisfactorily, a test prepared by the High-School department was given at the end of the half-year course. This test was just the same as the test which was administered at the same stage to the classes in the High School; furthermore the papers were graded by the instructors in the High School, and the eighth-grade children succeeded in the tests fully as well as the High-School children had succeeded. There was a good deal of enthusiasm in the class for the work, and the general result upon the children of the whole experiment has been very gratifying. They have been willing to work, and they have shown enthusiasm about the progress which has interested their instructors as well as themselves. They have gone on in the High School this year with unabated success.

This year's eighth-grade class is doing from the first practically high-school mathematics, with the result that at the end of this year the present eighth grade will have, instead of half a year's mathematics to its credit, practically all of the first-year high-school work.

Such an adjustment as has been described in mathematics is not altogether satisfactory. The changes ought to be made farther down in the elementary course, and it is hoped that the work may proceed from this point in such fashion that in the sixth and seventh grades certain mathematical formulas that have always been given in algebra shall be gradually introduced. The use of co-ordinate paper and co-ordinate sections on the blackboard has long been common in the elementary course in mathematics. There is no reason why this should not be enlarged to the point of including a good deal of material that is ordinarily presented in geometry. In other words, the work in mathematics will gradually but certainly be worked over so as to articulate very much more intimately the work of the elementary school with that of the high school. There will ultimately be no break which has to be bridged over by the study of high-school mathematics in the eighth grade.

There are two eighth-grade subjects which are not fully dealt with in the preceding paragraphs. These are history and geography. A certain amount of history is commonly taught in the eighth grade. There is also a completion of the work in geography. If these two subjects are entirely omitted, the elementary course is likely to be incomplete, and if, on the other hand, they are carried up into the high school, they raise a number of questions which are not commonly understood by first-year teachers of the high school. Thus we find very few high-school classes which have any general geography. This practice, however, of completing geography in the elementary school is peculiar to the United States. If one visits European institutions one finds that geography is a respectable science which has its place in university classes and in the upper years of the secondary schools. There is no reason at all why we should not consider as part of our American readjustment the problem of putting into the high school a certain amount of geography. Indeed, such a change in the high-school course is advocated in many meetings of teachers of science. If the history taught in higher institutions is to be made intelligent, it is very clear that there ought to be some review of the geography which has been studied in the elementary school. At the present time the geography which finds its place in some high-school courses is a form of physical geography, strictly related to the science of geology. That there should be some general earth science in the high school is recognized widely enough to command serious attention, and the suggestion which ought to be carried out in some form or other is that there is such a readjustment of the elementary-school geography that there shall be no loss to the individual pupil from the ultimate omission of the present eighth-grade course.

Again, with regard to history, the problem is one of general readjustment. At the present time the eighth grade in the University Elementary School is carrying on the history and geography which have been for some years usual in this grade. The result is a program which is somewhat heavier than the program of students who are doing similar work in the first year of the High School. The heavy program is an incident of readjustment, however, and will probably be avoided in the future.

As a matter of administrative convenience, all of the readjustments which have been described above have been made without changing in any way the designations of the classes of pupils concerned. That is, up to this time the eighth grade has been continued as an elementary-school class. Children who have succeeded in doing the work in modern language, English, etc., have been passed into the second year of the High School, and there have been allowed to go forward with high-school work, taking advanced credits for the work which they did in the Elementary School.

There is no final reason why the first year of the High School should be circumvented in this way rather than that the eighth grade be abolished. Indeed, there are many reasons why it would be advantageous to omit the eighth grade and allow the children to begin their work with the regular course of the High School. It is planned for next year that the eighth grade shall be entirely omitted. The seventh-grade children will be promoted directly into the first year of the High School, and will carry on the work which is this year being done in the eighth grade, in the first-year class of the High School. This decision needs perhaps to be defended in detail. The purely local considerations are of no great importance. It is essential that the question be faced in some general form. In the effort to deal in a general way with the whole matter, considerations of the following type are of importance. Is the eighth grade in its organization and in its method of conduct of work more like the high-school class or more like the general elementary course? Do the students gain any social and personal advantages by being classified as high-school students, which they would miss if they continued to be members of the elementary school?

The considerations which led the officers of the University schools to decide on the abolition of the eighth grade are as follows: First of all, the general departmental type of work which has been carried on for years in the eighth grade is of the high-school type. Students have been brought into contact with special teachers for each of the subjects in the upper grades, and this type of instruction seems to give the highest degree of efficiency. The student is mature enough so that he is not crippled by his lack of continuous contact with his instructor. Furthermore, this departmental type of organization makes it possible to defer in some degree to the special needs of the individual child. It is possible, in other words, to introduce some elective opportunity which will differentiate the course and adjust it somewhat more readily to the interests of the individual. Sometimes a child falls behind in a single subject. If the elementary type of organization continues, it is extremely difficult to carry him forward in his other subjects because of this single deficiency, whereas in the high school a deficiency in a single subject is not very serious for the general organization of the student's program. Apart therefore from the general advantages of election there is the possibility of adjusting the student's work in detail, and this adjustment is more readily carried on under the formula of high-school instruction than it is under the general formula of elementary organization. Indeed, the upper grades are even now, although they remain in the elementary schools, taking on the freer form of organization which makes election possible.

Again there are many considerations which tend to attach the children of the upper years of the elementary school to the adolescent group as distinguished from the elementary group. A general social consciousness and a desire for the simpler forms of social life which are known in the high school and are cultivated by adolescent children, begin to appear in students of the eighth grade. There is no reason at all why such students should not, under careful supervision, be allowed to share in some of the larger liberties which are accorded to high-school students as distinguished from students in the elementary school. The interest that is aroused in the minds of these students who are just beginning to realize their social opportunities and obligations is also a distinct advantage in stimulating them to do better and more elaborate work. They can be thrown on their own responsibility with more definite consciousness on their own part and on the part of the teacher, that they are to be held responsible for their own conduct and for their social organization. They can be relied upon to organize more fully their home work. They can be appealed to in a variety of ways because of the classification which is accorded to them, whereas if they were continued in the elementary school they would feel on the whole more dependent than they do as members of the high-school community.

From the point of view of the instructorial organization also, it is doubtless advantageous for the students to be classified in the high school. They come in contact more frequently with men, and this is a distinct advantage, especially for the boys.

The question immediately arises whether this process of economy and condensation can legitimately be carried a step farther than it has been carried in the University Elementary School.

In reply to the question thus raised, it may be said that the effort of the Elementary School has not been in this case to work out to its final stages the whole experiment of readjustment. The effort which has attracted the attention and interest of the officers of the University schools up to this point is the effort to co-ordinate the work of the two schools. It is a mere accident that a single grade, rather than a grade and a half, has been eliminated as a result of this experiment. Perhaps the condensation of the course can go farther. It is the judgment of those who are in closest contact with this experiment that it is probably not desirable to attempt to reduce any further the time spent on the subjects discussed up to this point. If there is lack of economy in the High-School organization from this point on, that lack of economy can probably be corrected most advantageously by a fusion between the High School and the Junior College similar to that which has been worked out between the Elementary School and the High School. Whether or not the seventh grade should be classified with the High School or the Elementary School is another question not to be confused with the question of economy. That detail of organization may or may not be worked out by reducing the Elementary School to a six-year school. The work which is now done in the seventh grade will undoubtedly have to be done somewhere, and in much the same form in which it is now done. If that can be carried on better by High-School officers and under the classification of the students in the High School, there is certainly no objection to this new type of organization. If this change in the classification of the seventh grade were made, no such opportunity for further economy of time and energy on the part of pupils as that which has been recognized in the present readjustment of the University Elementary School is likely to be discovered. From the point of view therefore of economy, the present experiment may be regarded as fairly closed. From the point of view of the possible reorganization of the Elementary School, the present experiment does not aim to be at all definitive. It may be desirable to work over this organization much more completely than it is worked over at the present time, but any such administrative readjustment of the Elementary School and the High School will in no wise affect the conclusion of the present experiment. One year has been saved. Whatever the classification, or whatever the type of organization ultimately adopted, this saving of a single year is a definite and final economy which will operate to the advantage of the student, whatever the form of organization through which he passes.

The suggestion has been offered above that a similar economy can be effected in the High School. This is not the proper place in which to discuss this economy, but it cannot be repeated with too great emphasis that the failure to recognize the possibilities of economy usually grows out of the fact that two different institutions are organized under different managements and with different faculties. The one great virtue of this particular experiment is that it calls attention to the fact that a conference between teachers who have to deal with the same children will very frequently bring out opportunities of economy that would be entirely lost sight of if these conferences were not held. It is also to be noted that the children feel, somewhat vaguely perhaps, this lack of economy. Indeed, it is frequently true that the lack of enthusiasm on the part of the children is the best possible indication that the school organization is defective. That teachers should be slow to discover the significance of these symptoms that appear in the listless children who refuse to be enthusiastic about reviews is simply another indication of the necessity of a careful and complete survey of the work of every instructor, giving him an opportunity to place his own individual task in the general light of all the educational activities which surround his own individual work. The eighth-grade teacher may have done his work conscientiously, but until he recognizes that it is his duty to carry the children forward as far as it is possible for them legitimately to go, he has not done his whole duty. This full duty may carry him into the domain of the high school. This should not deter him from the utmost efforts to economize the time of the pupils. The gravest menace to our school organization is that which grows out of the fact that all work of one type is terminated at the end of the eighth grade, and begins anew in an entirely different environment and with an entirely different set of officers in the first year of the high school. To transcend these limitations of institutional organization is one of the opportunities of the teacher who recognizes the fact that economy of the children's energy and time is more significant than any of the traditions of present-day school organization.